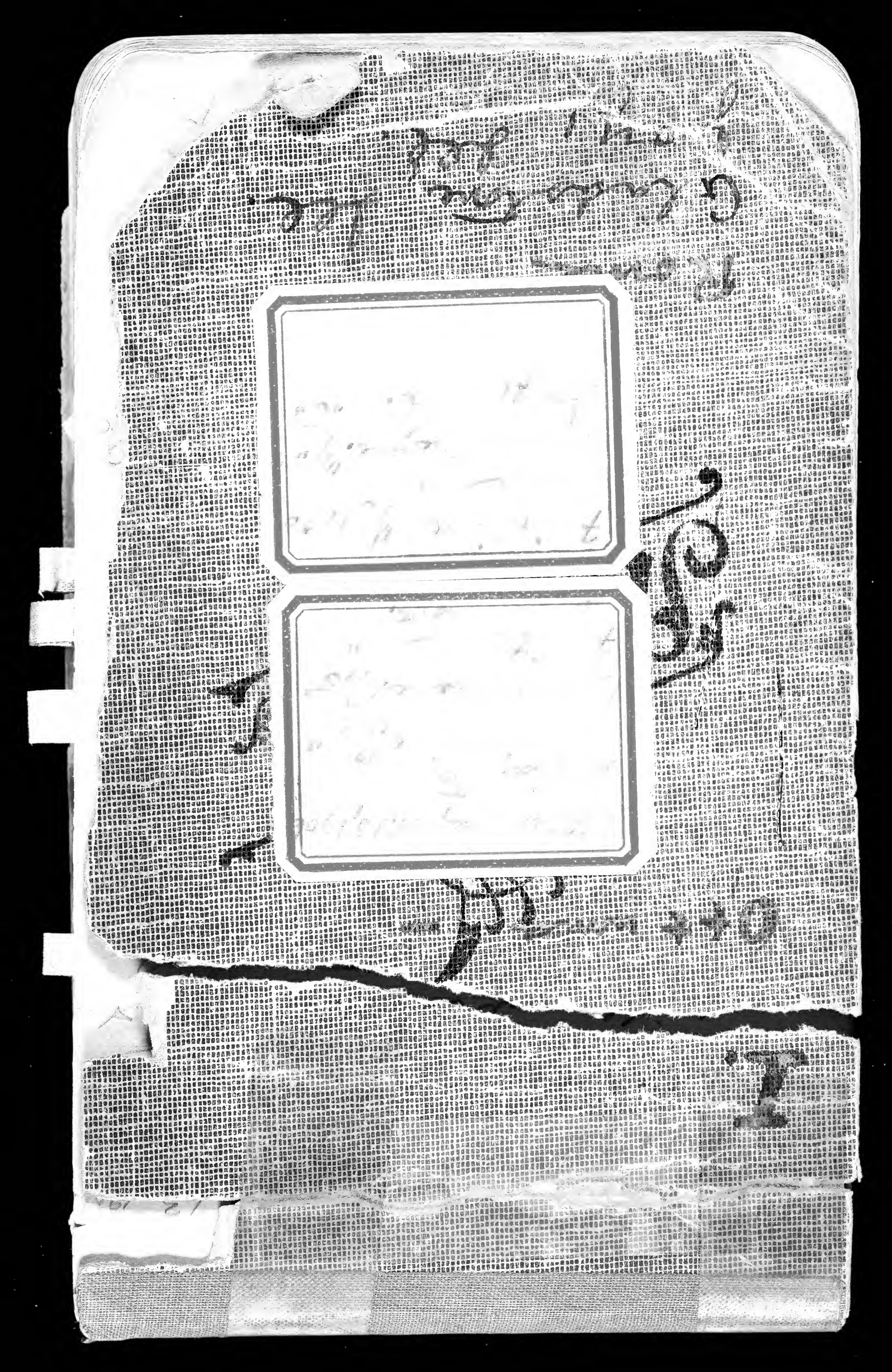


1

Ottawa, Oct 13

[illegible]
(sometimes) [illegible] much
doubt [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Sand [illegible]

above it a hard white clay (see sample) and on this lower yellow clay & marl.
The two clays are only 3 or 4 ft. deep.
Stand the afternoon on Tuesday Sept.

Albia to Moravia, etc
Oct. 14-1906.

The country right near Albia is cut up by ravines, - rough.
Farther S. it becomes more rolling, but W. of Moravia, & N.W., it is prairie.
The maples country is Eastern & S.E.
See Map of Appanoose co. for course followed from

Moravia to Unionville

All along the road drift veins, sometimes clayey, often sandy, and with small boulders.
A gravel pit some 3 miles after ✓ is mainly sandy & from 2 to 4 or 5 ft. thick.
At the points X, X', X'' & X''' it is at the surface. The first three are on lower Kay

of slope, but X'''' is at top of hill just S of rock.
On table this gravel is usually sandy, but at X''' it becomes almost a quite clayey gravel.
On the higher ridges only there is a thin layer of loess material, dry & yellow & like the yellow lobular loess (see sample) taken at Altamont.
In all the upper territory traversed the tops of the ridges & hills of high elevation are more or less sandy & have poor soil. In such places the Maryland Black Jack oak is common. This species is especially common in the NW ¼ of sec. 7 Union Twp.
I found my Chinquapin oak Sec 2, Taylor Twp.

Left Unionville at 5:20 PM & reached Columbia Jc. at about 9 PM.
Put up at Commercial Hotel.

Columbia Jc., Ia. Oct. 15-06

Went to top of hill, took sample of loess-like clay from near top, 1 block N & 1 blk W. of school at turn of road from Columbia Cy to Col. Jc.
Took second sample a little farther back, on top of same ridge, 1 block W & 2 blks N. of water tank.

I could see gravelly drift at school house and more than 15 ft. from top of hill. I went west from water tank on road.
The broad ridge extends

for nearly a mile & then
[illegible] & [illegible]
ridge & descending on
lower slope.
The same yellow sandy
material as on the
[illegible] road
On slope, even a few,
ft. below the [illegible] ridge
[illegible] pebbles
[illegible]
[illegible]
In a few cm. [illegible]
small [illegible] stone; &
there is only a thin soil
(probably 2-3 ft) of
loamy clay on top of
the ridge only.
The pebbles are mostly
lighter colored, but
occasionally dark as
at base here.

Finally between the two
branches of the creek
the ground is considerably
lower than on top of the
small ridge just E. from.
Here quite rocky.
Figured N. of first road
just W. of creek.
On ridge northern ground
& small boulders [illegible]
here & there along road, &
come quite to surface.
On top of ridge the
[illegible]
So the rest is a rolling
[illegible] plain.
Went along this road about
½ mile & turned N. across
pasture. Crossed road
& came out at post
2324. Turned toward Col. Jc.
A number of cuts in clay,
overgrown, but show that
[illegible]
stuff (slight) in [illegible]

[illegible]

a

a [illegible]

a a [illegible]
[illegible]
[illegible]
[illegible] 9 is from
1 to 5 ft thick.

Below that is [illegible]
[illegible] of yellow [illegible]
with a few [illegible]
[illegible] no [illegible]
[illegible] end of [illegible] ridge.
I find that the [illegible]
[illegible]

from a [illegible] band, which
[illegible] [illegible]
Most of it is [illegible].
Now E. and [illegible]
3 or 4 ft. and very [illegible]
(mostly)
Still farther E. there is
about a foot of [illegible]
[illegible] on top of [illegible] band,
Cut [illegible] from 2000 ft.
to 2600 ft. from crossing

At 10.48 AM. I took a
train for Millsap.
Between Fredonia & the
bluffs there are sandy
areas & low dunes.
"The bluffs" are low
hills.
From Millsap to the
bluffs is [illegible] prairie
[illegible] [illegible]
[illegible] very [illegible]

[illegible]

[illegible]

[illegible]

the marked bridge is
at 221 + 1517.
end of the solid distance
is 3 ft

at 221 + 15 the flow
[illegible]
[illegible]
[illegible]
below on the chart)

the ~~[illegible]~~ end of
cuts I might terminate
is about at marked bridge
summit of grade is at
227 mi post.

Returned to Col. Jr. &
went to Oakes' bridge
north of town.
There is no gravelly
drift on this R. ridge,
says Oakes.
Found three kinds of
clay — white, yellow
clay, & lower "point
clay" (he calls it) in the
new part of pit, &
near house, in lower
part of exposure a
blue clay. (see
samples of all three),

Nov. 5. Gladstone

31 - Ridge [illegible] of 25 ft
ridge looking N.W.

32 - Canyon [illegible] (one mile)
C - Cont. looking E.
D] [illegible]

29 & 30 Cut 4 - West [illegible]

Lam.
fine day

27 - Main part of cut 4 see [illegible]

Gladstone Nov. 3 1905

13 & 14 - Cut 2 - E. of Rome
looking N.W.

Nov. 4.

Gladstone Pel

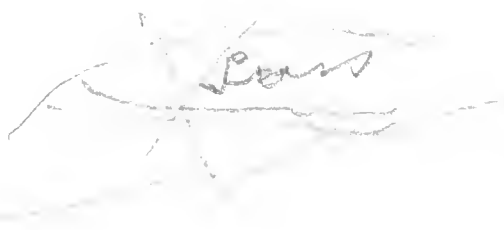
11 & 12 Canyon towards
X - X₂ " " peak
A - B - Quartzite [illegible]
5 - 6 - cut 1 - Gladstone laminated.

Fairfield Rome, Burlington
Nov. 2. 1906
Left Iowa City at 9.45 A.M.
Expense acct

Nov. 2 -	Dray on - Bicycle & Fairfield	.50
	Lunch - W. Liberty.	.25
Nov. 3 -	Leggett House - Fairfield	1.00
	Buffalo	.25
	R.R. fare to Rome.	.46
	Wheel to Rome	.25
	Lunch - Rome	.25
	RR fare to Burlington	.83
	Wheel	.25
	[illegible]	.35
	Baker 10 Engine 5	
Nov. 4.	Union Hotel - Burlington	1.00
	RR. fare to Gladstone	.28
	Wheel —	25
	Lunch - Gladstone -	.25
Nov. 5.	Hotel - Gladstone	1.00
	RR. fare to Joy.	.82
	Wheel	.25
	Lunch - Joy.	.25
	RR. fare Joy to Burlington	1.10
	Wheel	.25
	Lunch - Burlington	.35
	RR. fare to Iowa City	2.31
	Wheel —	.25

Just E. of Fairfield the
rock shows yellow brift
below, with a dark
bluish band (gumbo?)
about 1-2 ft. thick
above it, following
contour, but flattens
and on top, 3-7 ft. of
yellow clay,
Then an 3 or 4 inch
cut near Fairfield
The topography is slightly
rolling. Ravines
are flattened a little
Rounded, some timber
on both sides of creek

A cut E. of Mandale, at
bottom rock is sandy, but

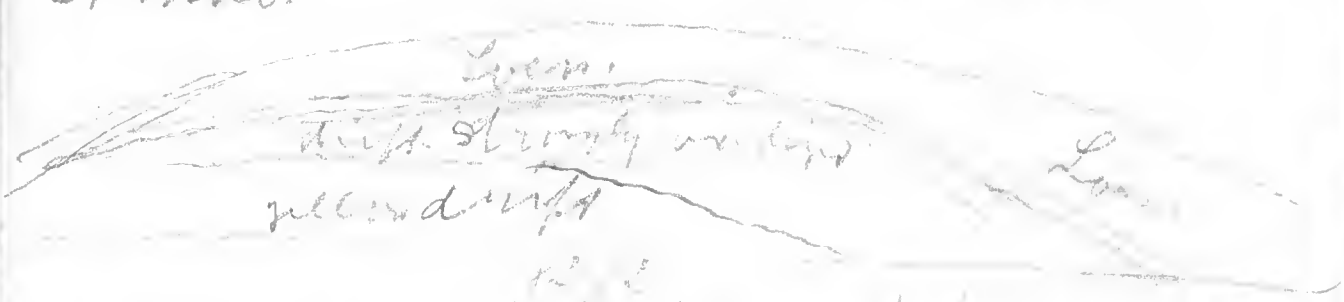


At S. E. it is mostly rock

+ some Timber.
E. of Lymphinlge
two small cuts are
Loess, plus
another Loess, plus
a small cut. shows
strongly oxidized Loess, shading
downward, to yellow drift
+ gravel, then other

Rome & Newby
cut 1- Just E. of depot
over 150 yds. long & about
49 ft. deep.

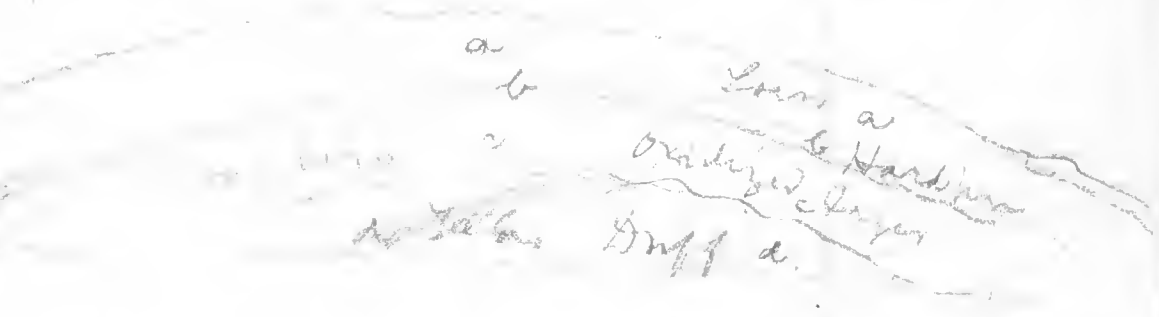
S. side. Hardpan,



The section is 3-7 ft. deep.
The blue section. Strongly oxidized
Organic, peaty, [illegible]
beneath a layer of hardpan
1-2 ft. deep, a [illegible]
of blue clay, [illegible]

clay appearance.

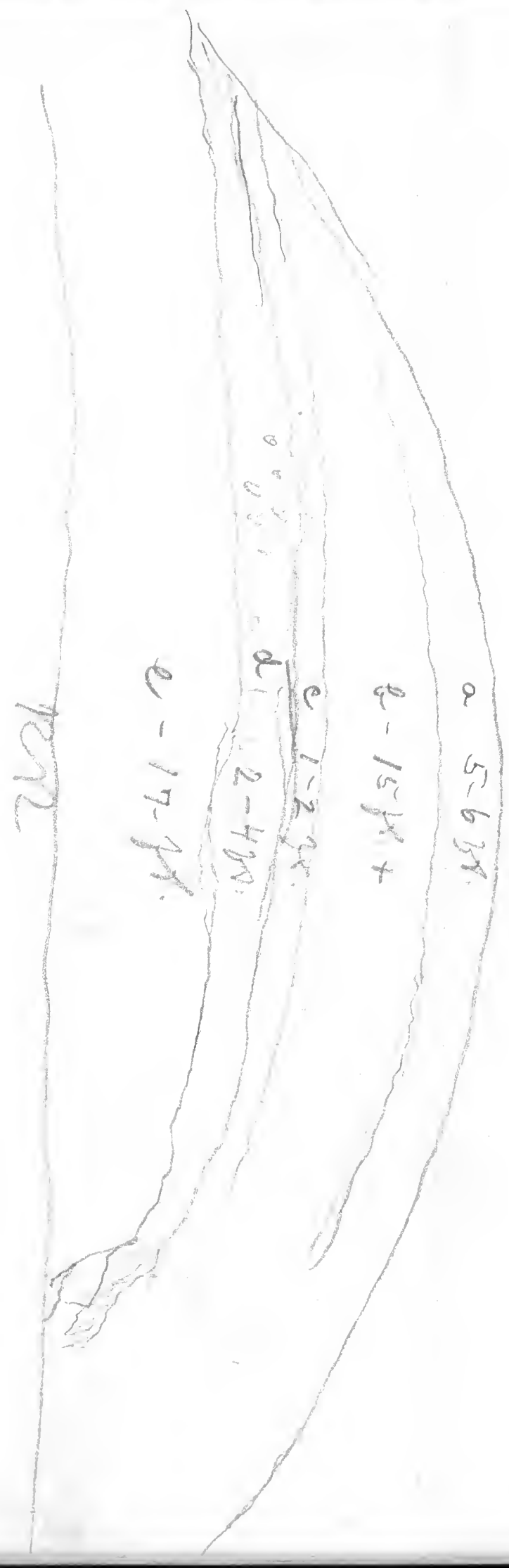
Cut 1. N. side



Both samples of a & b.
There are no fossils in the loess, few Mollusks (small 24 in blind shades, but looks more like fresh clay) (b) has small bubbles in it, much of the many seems. It is unstratified clay shale.

Positions a & c become similar, about all the drift exposed in IV. ½ of cut in excavation,

this is cut 2
{ There are little rolled & crystals all over both deposits }



a. Some reddish loam, [illegible] [illegible], 9 [illegible] [illegible]. No [illegible] [illegible] [illegible] below.

b. A yellow loam, [illegible] [illegible] [illegible] [illegible] with few [illegible], [illegible] [illegible]. The [illegible] are almost [illegible] [illegible] both vertically [illegible] but generally these are [illegible], [illegible] [illegible] [illegible].

{The lines below a, b and c are not [illegible].

c. A red layer — slightly sandy.

d. A red [illegible], [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

e. Limestone.

[illegible] a b & c.

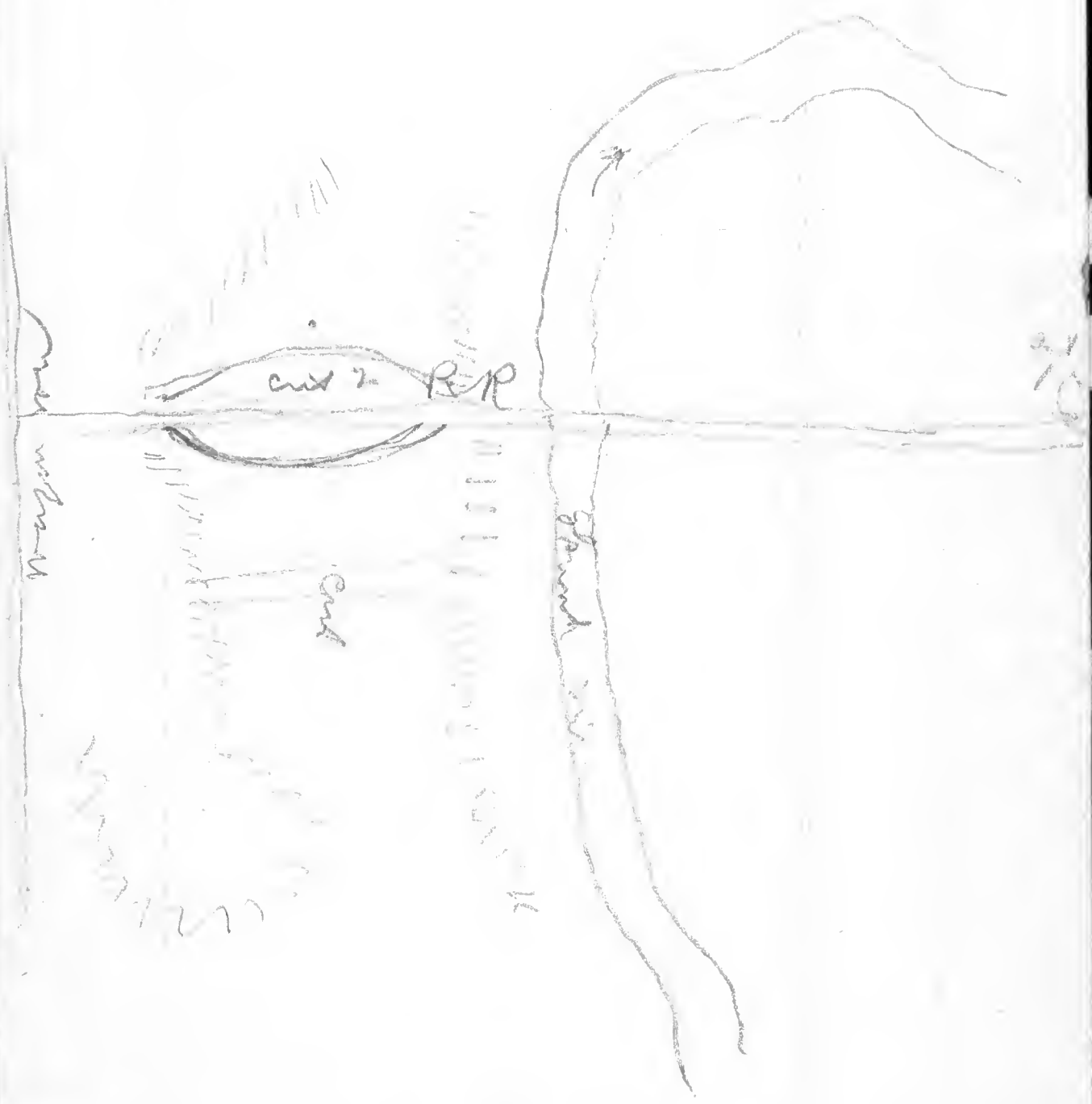
The [illegible] (possibly) on [illegible] side of [illegible] is [illegible] with [illegible].

The cut on [illegible] side. The [illegible], but c. is more sandy.

a) has [illegible] no [illegible] on both sides.

2.20

Cut 1. E. of house in ocean of
Alluvial & [illegible]
Cut 2 [illegible] ridge



2.2

Cut. 3. [illegible]

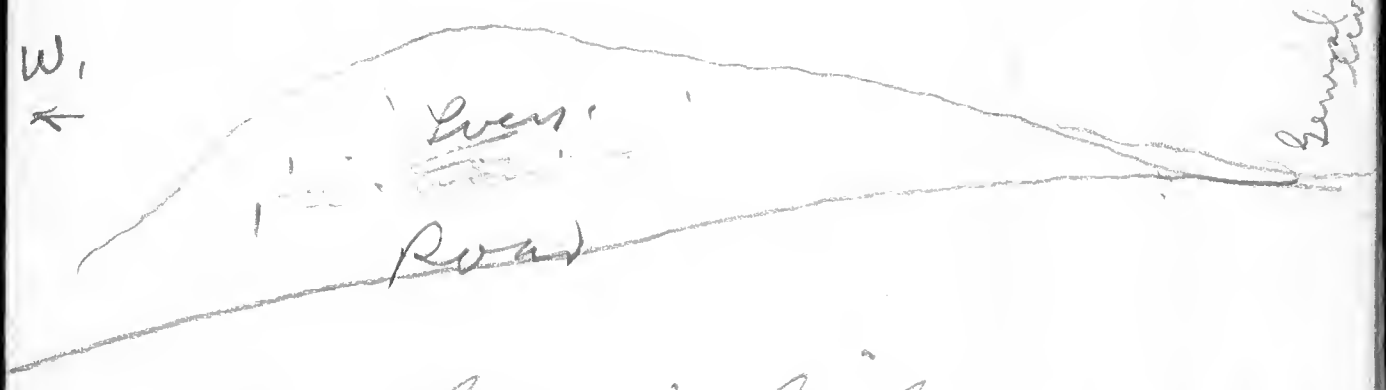
Cut 4. is about [illegible]
more [illegible] is
It is very much like [illegible]
Lower 6 ft. yellow [illegible]
[illegible] (hard)
[illegible]). Then [illegible]
ft. of [illegible]
Then is (paint clay-
like) [illegible]
[illegible]
[illegible] and [illegible] of road
(1st road turning to right

There are [illegible] more cuts
past E. of road, Did not
want [illegible] any [illegible]
Cut 5 - [illegible] [illegible]
[illegible]

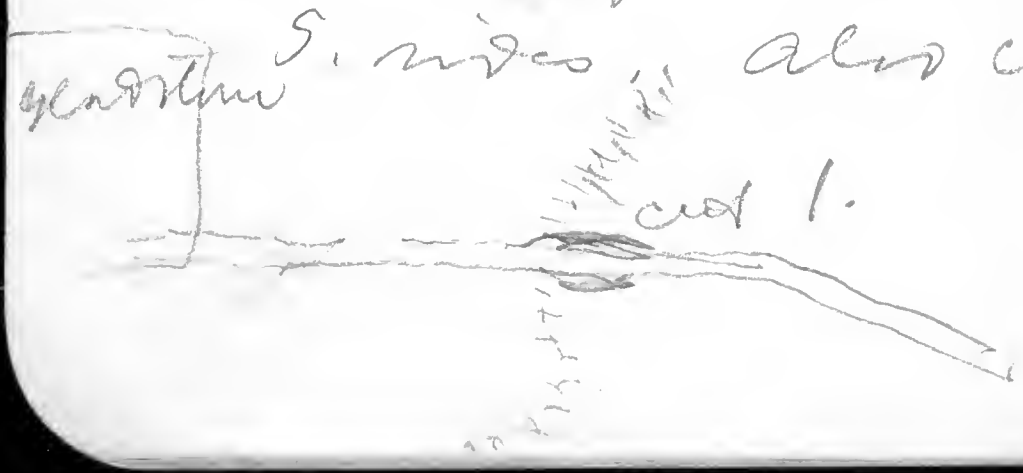
Clay not extend west of
bridge on road to Oakland
Mills, is water and
lies east Glenn at mtg

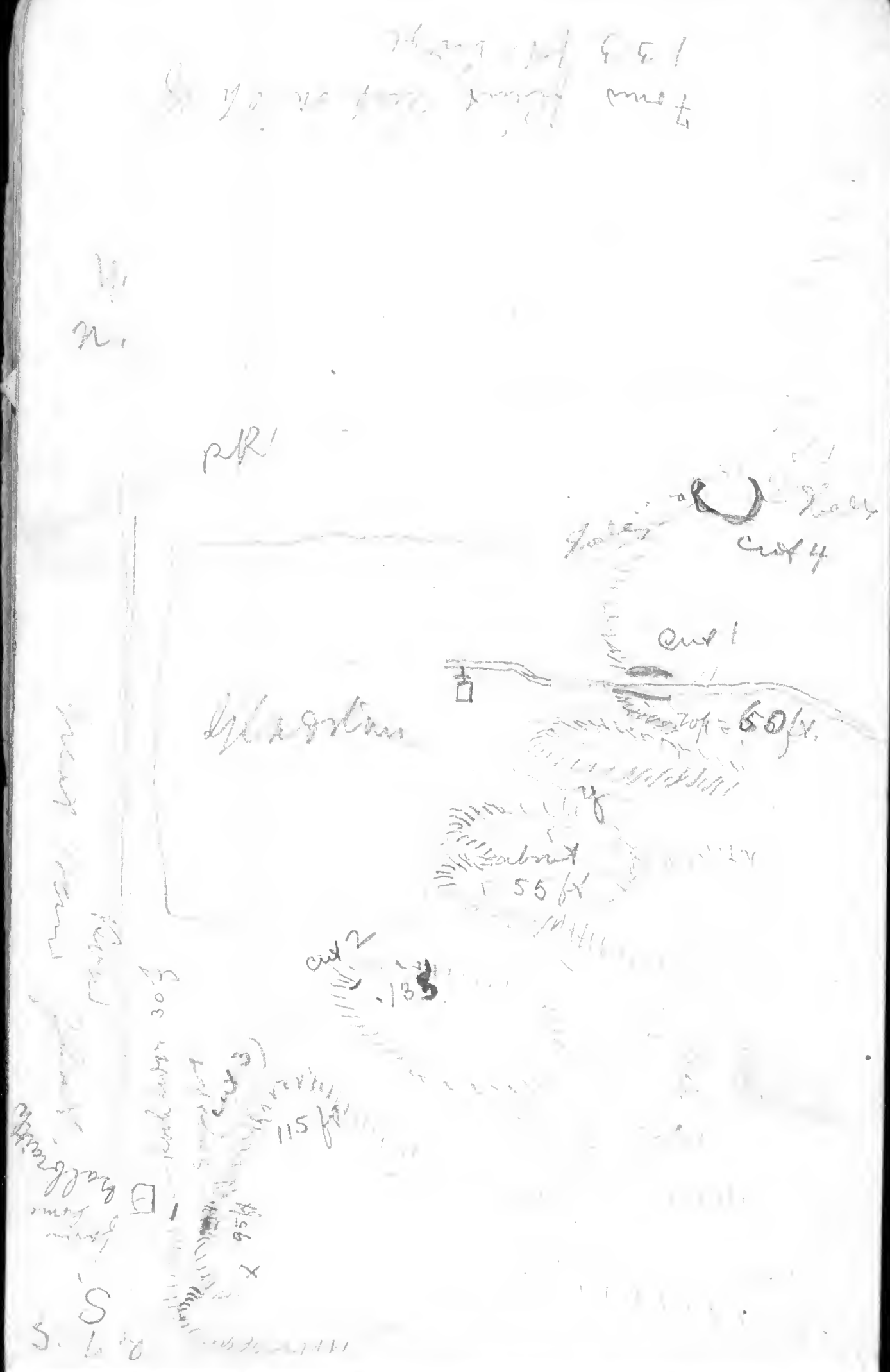
Gladstone, Ill. Nov. 4-06

Cut 1 On road going E. from
Gladstone and here clay
ridge - about 20 ft.



The loess is light, crumbly,
light yellow, almost
granular & little sandy.
On weathered surfaces
it shows lamination
parallel to slope.
It is quite fossiliferous
& the fossils, down to the
scatterers throughout, to
top of hill
In shells from both N. &
S. sides, also clay,




cut 4
cut 1
60 ft.
55 ft
cut 2
135
115 ft
95 ft
cut 3

At X [illegible]
(branch or [illegible]) they
[illegible]
[illegible]
[illegible]
side [illegible] of)
[illegible]
above [illegible]
[illegible]
[illegible]
[illegible]
Found flint chip in
A 135 ft. [illegible]
The slope is gravel [illegible]
[illegible]
At about 50 ft. (below high (at 33 ft)
133 ft point) there is
an overgrown [illegible]
where there [illegible] yellow
[illegible] big) [illegible]
No [illegible]
This is right at end of
ridge

Cut 3. as the second flint
already [illegible].

In the bottom of the ravine
at Y are big red boulders
& smaller gray and
black-black rocks.
Red-rock (limestone) is also
exposed.

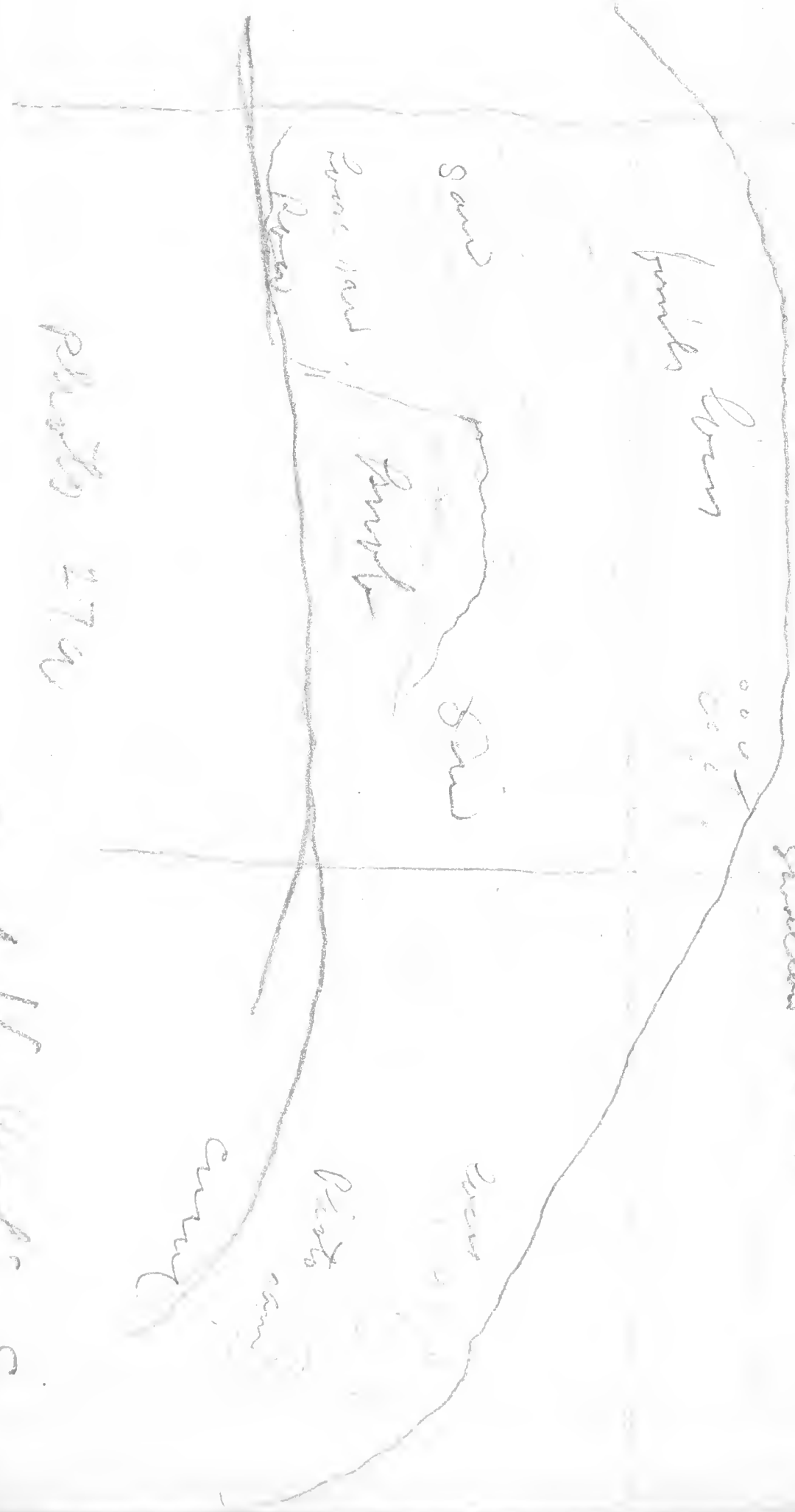
The upper 2 or 3 ft. of cut 1
X is obviously more reddish
Possibly extends up to the
reddish [illegible]

Cut 4 - stiff buff (sandy)
clay, [illegible]
small [illegible]
[illegible] & [illegible]
[illegible] [illegible]
[illegible] [illegible]
yellow.
Apparently a [illegible]

The sand is also used for foundry "core-sand". The same sand is found sticking up in top of ridge (except in north)

The main part of cut 4, looking S (drawing) is loamy above (the numbers holes) & banded sand (fine) below, grading into distinct sand), The lines of demarcation are not sharp.

Cut 4 is about 25 ft above bottom & drift dark stains, reddish & mottled along lower part of hill



Cut 4. looking S.

The river is
about 18 ft below the
level of our 9 morning valley
& is about 10 ft deep
an extended alluvial valley
[illegible]
The wind is hard
blowing, bottles greatly
[illegible] Always
small bottles, known
the morning. Feel well.

Left Omaha on freight
at 11.40 - Reached Oquawka
at 12.
The bluffs run nearly
parallel to RR. for
at least 3 mi, and
seem to be about 1 mi.
back.
Around Oquawka they
recede & at O. are not
visible.

Oquawka is right on Miss.
river bank.
Just N. of Oquawka
cond again run bluffs,
seemingly about 3 mi.
back.
Timber is not high
Northern RR. bridge
river & gets near to
bluffs. Now not over
2 mi.

The valley above Oquawka
is all sandy & very large
part of it the Maryland
Oak forms scrub
thickets.
Quite a lot of it
appears dune-like, &
this especially has
the oak.
The best part of the
dune & oak area extends
for 2 or 3 miles south
from a point about 2

Mr. S. of Keitlsburg
then M. for a mile
or more it is grass-
covered dunes, in
some places bare.
hybrid dunes.
Then, near K. it is
more cultivated, but
it is all sand, and
there are also sloughs
right at Keitlsburg.

West from Jay, Dec 24/56

The 1st cut is nearly a mile
out, & before first curve
is reached. It is low &
long, & has only yellow
lupin. No barren

Cut 2. is 1st cut beyond curve
& is over a mile from Jay.
It is past E. of railroad
(1st one across road by the
N. side.

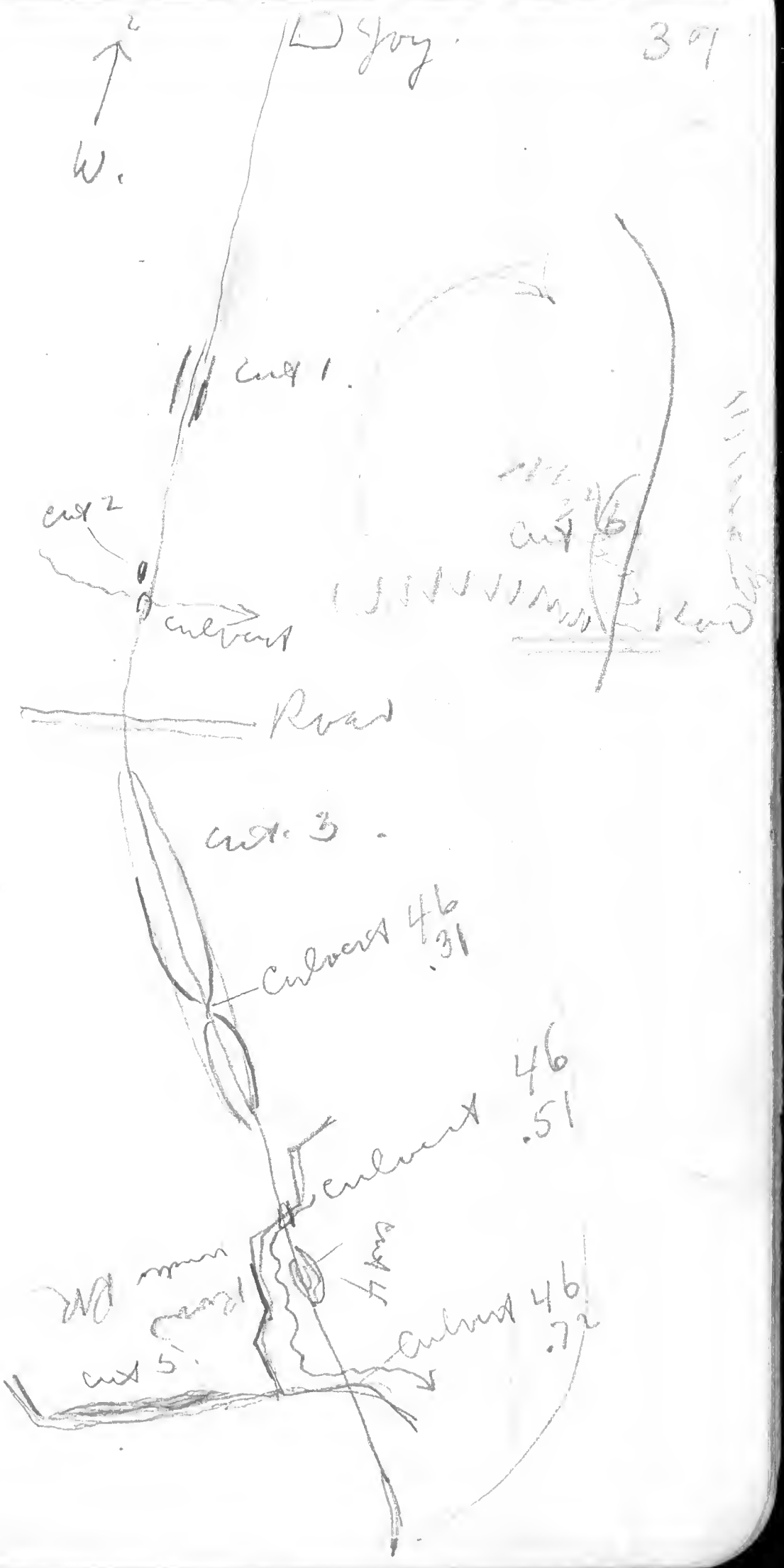
General Map

Cut 2. looking N.

The upper 1½ ft. of (a) is yellow (like the cut) without, with a pink & is colder, & has smaller grains for medium & the (b) layer characteristic [illegible] cut. The [illegible] (a) & (b) [illegible] distinct from [illegible] [illegible] formed by [illegible].

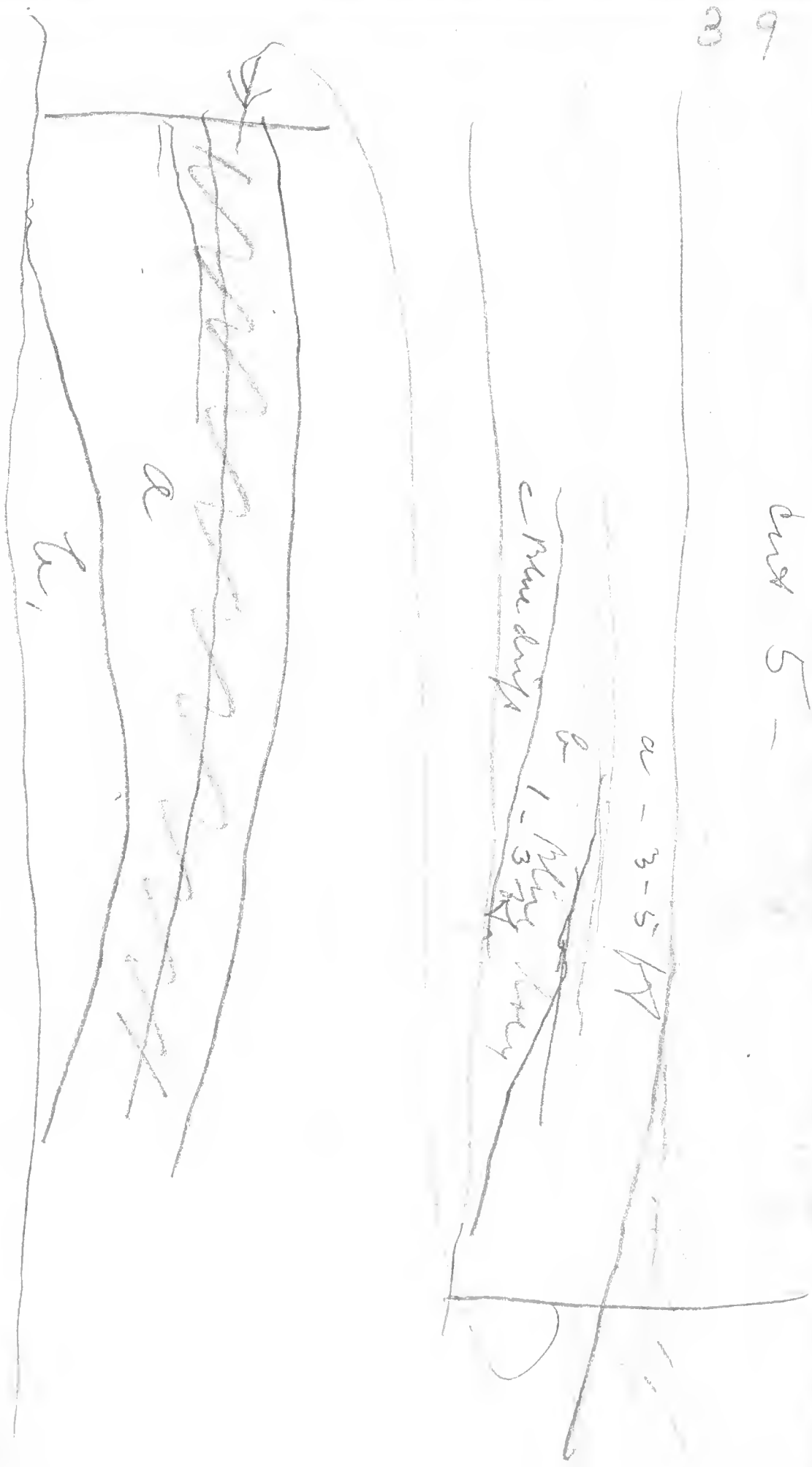
Concretions are frequent in upper part of the formation & vitreous [illegible] but not very abundant. Found [illegible] about 6 ft. of (b) in exposure; the [illegible] not more 3 ft. above [illegible] [illegible].

Took samples of (a) & (b) & concretions.



Cut 3 is a long cut, nearly ½ a mile & 20 ft. deep in deepest place. It is densely overgrown with grass etc. I could yet yellow loess only (no sample) on higgling, but I could not get at base. Evidently there is blue loess here as lamps, carefully taken out to set telegraph pole, alongside with the tube.

Cut 4 is shorter, but quite as deep. It is overgrown. I could see only yellow loess exposed.



Cut 5 - is long & low -
3 - 6 ft.
It shows (a) a yellow & reddish bulbous upper layer, no fossils -
(b) a typical blue limestone with iron oxide tubes & fossils. Note number of (a) & (b)
There is also a little blue drift pebble below, with small bottle scallops through it.

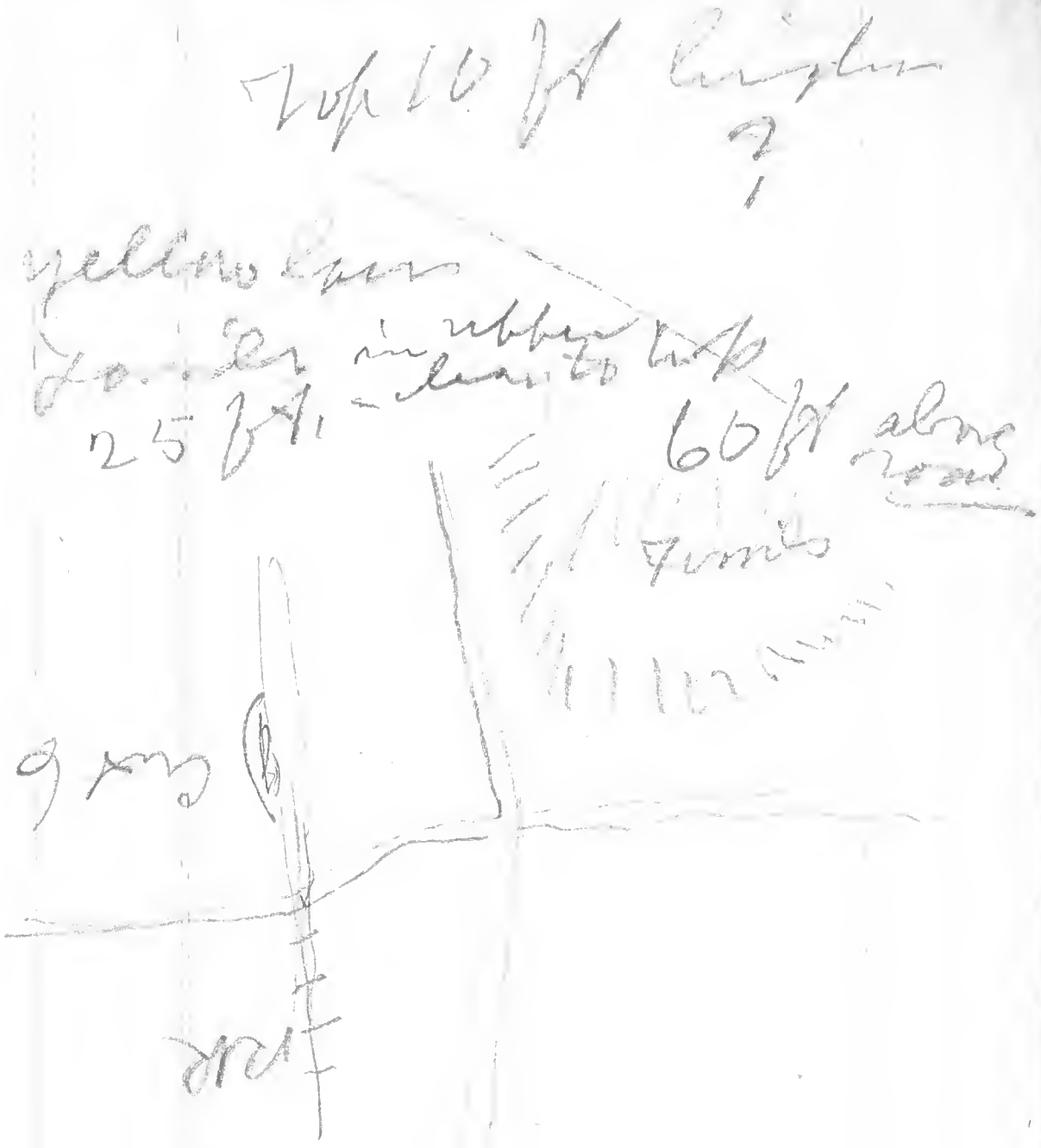
The road here runs up a valley & cuts the front of a ridge lying in rows.
The line between b & c is sharp, b & c are oxidized. Thus below a & b is also bilined

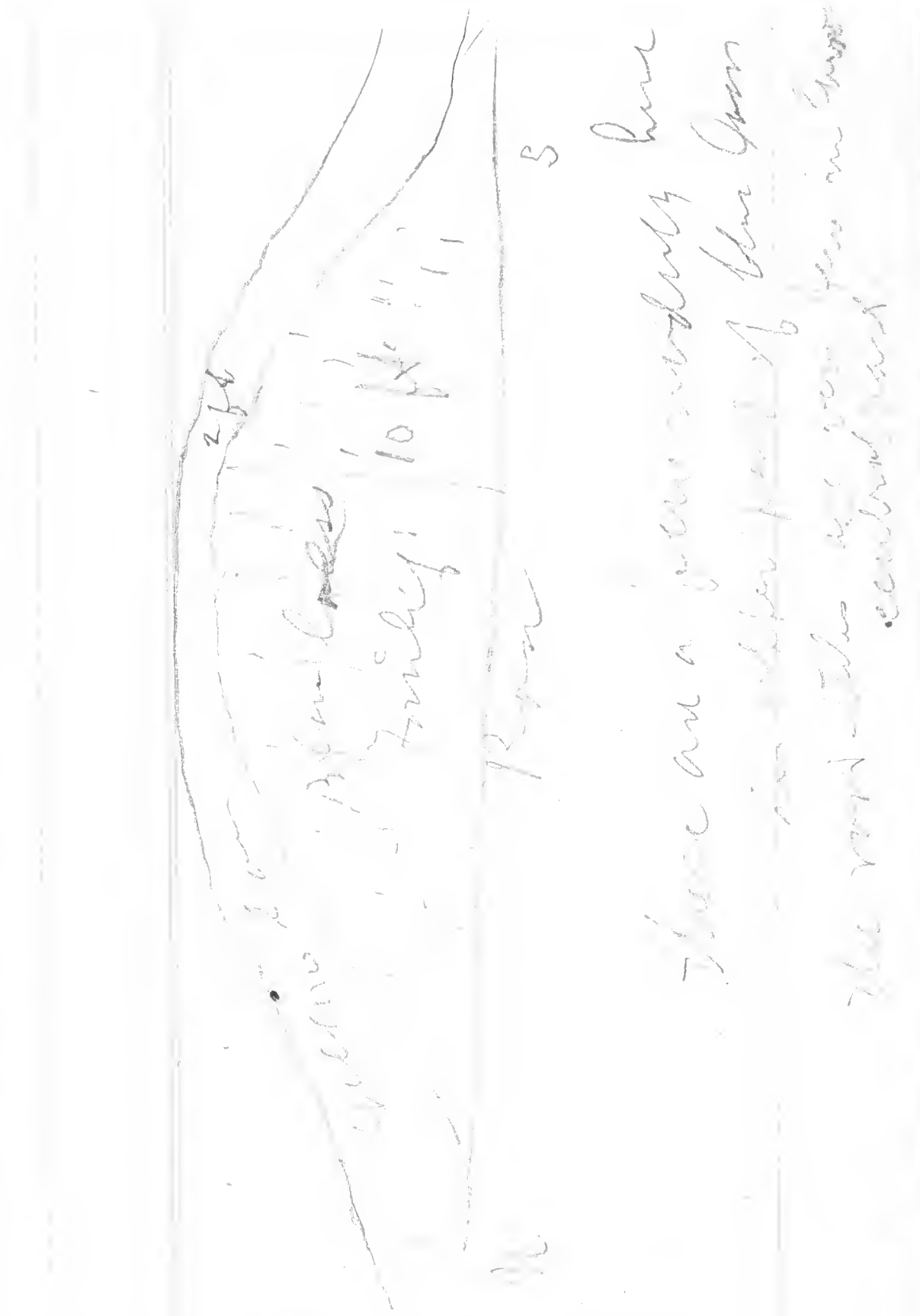
and the lower part of a is commonly oxidized for 1 - 2½ ft.
Fossils from all layers (b & c only)

Only 1 - 2 ft. of blue loess (b) under the top is 3 - 6 ft. of yellow.

All the rest of cut has the red loess resting directly on blue clay of (c) above the cutter is yellow below. The weathered layer in (a) is brownish

At curve N the cut is deeper - 8 or 9 ft & blue loess appears first


Top 10 ft higher
?
yellow sand
25 ft.
60 ft along road
gums
gum
fence


Gum
Tunbridge
Papa
5 km
There are a number of
the most